

REMARKS/ARGUMENTS

Claims 1-20 are pending.

Claim 5 has been amended to more clearly define the claimed invention. Claim 20 has been amended to correct a dependency typographical error. No new subject matter has been added with these amendments.

A Petition for Extension of Time to extend the period for response one month, including the appropriate fee, is filed herewith.

35 U.S.C. § 103(a)

Claim 1-13 and 20 – the Nam patent in view of the Deshayes patent

Claims 1-13 and 20 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent 5,850,148 issued December 15, 1998 to Jae W. Nam (hereinafter “the Nam patent”) in view of U.S. Patent 6,356,090 issued March 12, 2002 to Herve Deshayes (hereinafter “the Deshayes patent”) (Office Action, pages 2-4).

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Claim 1 (from which claims 2-6 depend) contains the limitation that the probe pins include a leading end having a taper between about 10 and 25 degrees. The Office Action admits that the Nam patent does not teach or suggest a taper between 10 and 25 degrees. The Office then turns to FIG. 3A of the Deshayes patent and states that "Deshayes discloses in Fig. 3a, a probe pin array having a very pointed end (col. 4, lines 4-6)". The Office continues with the unfortunate statement that "it means that the probe pin **appears** to have the taper about between 10-25 degrees" (emphasis added). The Applicant is respectfully very disappointed with such a statement from the Office. The Office has relied on a statement of a "very pointed end", which would have certainly resulted in an indefinite reject from the Office if it ever appeared in a claim, and a picture of the probe with a pointed end. From this, can it truly be asserted that the Office has definitively determined that the Deshayes patent teaches a taper of between 10-25 degrees? Even the Office does not believe this, as it used the word "appears" in its rejection. The Applicant considers his application to be a very serious matter, and respectfully asks that the Office please not reject his application based on "appears", "maybe", or "sort of", but by establishing the three basic criteria set forth above from M.P.E.P. 706.02(j).

The Office Action relies on Nam, which is simply a probe card for testing the failure of a semiconductor IC chip, in combination with Deshayes to achieve accurately signal from DUT and high quality contact to DUT. The Office Action then states that "it would have been obvious matter of design choice to taper the tip in this amount and get a high quality contact to DUT, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955)."

First, the Applicants would like to point out that the cited case is inapplicable to the present situation as it deals with a change in size, whereas, the present situation there is a different in the shape of the probe which changes its function.

Second, highly pointed probes are generally avoided in die testing as they can penetrate too deeply into the contacts of the DUT (Die Under Test) and damage it.

Third, the present invention discloses that a "specific tapering is selected to allow the probe pin to be inserted into the electrical socket opening without catching on the socket or bending. The tapered leading ends 122 allows a margin of error and self-alignment while sliding into the socket opening" (Detailed Description section of the current application at page 6, lines 7 through 11). Thus the probe pin of the present invention is specifically designed for testing an electrical socket, wherein the probe pin tip is tapered in order to facilitate insertion into such an electrical socket (Detailed Description, page 6 line 5-11). "In order to rely on a reference as a basis of rejection for an applicant's invention, the reference must either be in the field of the applicant's endeavor or, if not, be reasonably pertinent to the particular problem with which the invention concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). (See M.P.E.P. 2141.01(a)). The Deshayes patent and the Nam patent involve a different field of endeavor since they relate to testing dice, not to testing sockets, and a person having reasonable skill in the art would not expect to solve the problem of probe pin insertion into an electrical socket by considering a reference dealing with probe pin touching a contact on a die. Therefore, neither the Deshayes patent nor the Nam patent suggest or motivate an appropriate range of taper for inserting a probe pin into an electrical socket, and thus claim 1 is not rendered obvious by the either patent, alone or in combination.

With regard to claim 4 and 11, the Office states that “Nam in view of Deshayes disclose the claimed invention except for the plurality of probe pins each has a diameter of between about 30% and 60% of a diameter of a pin of a pin grid array microelectronic device to be inserted into a socket to be tested by said plurality of probe pins.” But that is the point. Claims 4 and 11 disclose the limitation of “a socket”. Neither the Nam patent nor the Deshayes patent teach or suggest testing sockets and the Office admits this. How can the Office reasonably reject these claims when a prima facie case of obviousness requires that the prior art reference (or references when combined) must teach or suggest all the claim limitations, when it admits that the claims do not teach or suggest all of the limitations?

With regard to claim 5, 6, 12, 13, and 20, the Office states that the Nam patent discloses “a probe pin array, further including an alignment guide (18) having a chamfered surface (outside of 18) with an angle of between about 45 and 70 degrees or 60 degrees from planar with said housing second surface.” However, that is not the limitation in the claims. These claims (as amended or as original) require that the alignment guide extend from the housing second surface. The alignment guide of the Nam does not extend from the housing second surface, because it is an alignment guide (i.e., guide ring 16) for the mass ring 18, not an alignment guide which extends from the housing to align it with a socket to be tested.

With regard to independent claim 7, the Office contends that the alignment guide (18) extends from the housing second surface. Again, as discussed above, the guide ring does not extend from the housing second surface, contrary to the Office’s assertion.

As the Office has not established a prima facie case of obvious, Applicant respectfully requests reconsideration and withdrawal of the Section 103(a) rejection of claims 1-13 and 20 are respectfully requested.

Claim 14 – the Frederickson patent in view of the Nam patent

Claim 14 stands rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent 5,955,888 issued September 21, 1999 to Toby Frederickson, et al. (hereinafter “the Frederickson patent”) in view of the Nam patent (Office Action, pages 4-5).

The Office Action contends that the Frederickson patent teaches the present invention with the exception of not teaching or suggesting a plurality of non-spring loaded. The Office then contends that Nam teaches non-spring loaded pins in Fig. 4B. However, this is not correct. Fig. 4B must be taken in context with Fig. 4C, as discussed in column 4, lines 14-53, wherein the Nam patent teaches that the pins of Fig. 4B are spring loaded as shown in Fig. 4C by notches 24 cut into the needle 19. The notches 24 allow a spring flex to the needles 19, so that the probe pins do not damage the contacts of the DUT.

Therefore, as neither the Frederickson patent nor the Nam patent teaches or suggests each and every limitation of claim 14, reconsideration and withdrawal of the Section 103(a) rejection are respectfully requested.

Claims 15-19 – the Frederickson patent in view of the Nam patent and the Deshayes patent

Claims 15-19 stand rejected under 35 U.S.C. § 103(a) as being obvious over the Frederickson patent in view of the Nam patent and further in view of the Deshayes patent (Office Action, pages 5-6).

With regard to claims 15 and 16, the Office contends that the Frederickson patent in view of the Nam patent does not disclose a taper between 10 and 25 degrees, then states that the Deshayes patent teaches a probe pin area having a very pointed end. However, as previously discussed, this is not a teaching of a taper between 10 and 25 degrees. Furthermore, claims 15 and 16 depend from claim 14, which requires non-spring loaded pins. Neither the Frederickson patent, the Nam patent, nor the Deshayes patent teach or suggest non-spring loaded pins.

With regard to claim 18, the Office states that “Nam in view of Deshayes disclose the claimed invention except for the plurality of probe pins each has a diameter of between about 30% and 60% of a diameter of a pin of a pin grid array microelectronic device to be inserted into a socket to be tested by said plurality of probe pins.” But again that is the point. Claim 18 discloses the limitation of “a socket”. Neither the Nam patent nor the Deshayes patent teach or suggest testing sockets and the Office admits this. How can the Office reasonably reject this claim when a prima facie case of obviousness requires that the prior art reference (or references when combined) must teach or suggest all the claim limitations, when it admits that the claims do not teach or suggest all of the limitations?

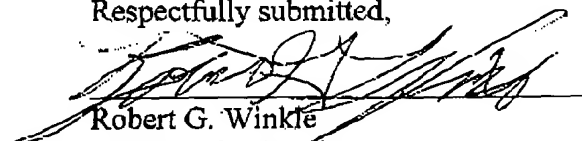
With regard to claim 19, the Office Action relies on the Nam patent for a teaching of an alignment guide. However, this claim requires that the alignment guide extend from the housing

second surface. The alignment guide of the Nam does not extend from the housing second surface, because it is an alignment guide (i.e., guide ring 16) for the mass ring 18, not an alignment guide which extends from the housing to align it with a socket to be tested.

Therefore, as neither the Fredrickson patent, the Deshayes patent, nor the Nam patent teaches or suggests each and every limitation of claims 15-19 either alone or in combination, reconsideration and withdrawal of the Section 103(a) rejection are respectfully requested.

In view of the foregoing remarks, the Applicants request allowance of the application. Please forward further communications to the address of record. If the Examiner needs to contact the below-signed attorney to further the prosecution of the application, the contact number is (503) 712-1682.

Respectfully submitted,



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